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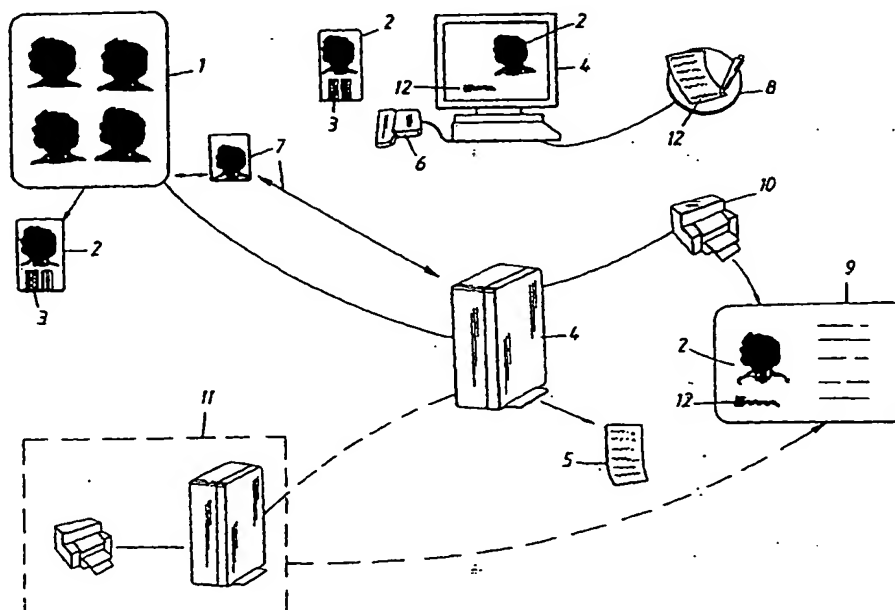
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ning of each regular issue of the PCT Gazette.

(54) Title: A METHOD AT THE PRODUCTION OF A PHOTO FOR AN IDENTITY CARD OR SIMILAR, AND A PHOTO  
BOOTH FOR MAKING SUCH A PHOTO



(57) Abstract: The invention relates to a method of producing a photograph for a document of identification (9) or the like that shall include a photograph (2), in which method there is produced a photograph (2) in digital form and the photograph is transmitted (7) for direct copying into the document (9) while still in a digital form. The invention also relates to a photo booth (1) for producing such a digital photograph.

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A METHOD AT THE PRODUCTION OF A PHOTO FOR AN IDENTITY CARD OR  
SIMILAR, AND A PHOTO BOOTH FOR MAKING SUCH A PHOTO

The present invention relates to a method of producing a  
5 photograph for identification documents and like papers of  
the kind that shall include a photograph.

The present invention also relates to a photo booth that is  
particularly designed to take photographs that can be used  
10 suitably in the preparation of identification documents and  
like documents, and then particularly for use in the method  
according to the invention.

When producing or preparing passports, driving licenses and  
15 other "secure" identification documents that include a photo-  
graph, it has earlier been usual to fasten the photograph in  
the document in a "secure" fashion, and efforts to guarantee  
the genuineness of the document have been made by stamping or  
embossing the document. The documents have often been embod-  
20 ied in plastic, in order to make it more difficult to change  
the bearer's photograph and signature, which latter may also  
be included in the document.

In order to enhance security still further, scanned-in photo-  
25 graphs have been used in recent times, said photographs being  
copied into the document. A signature is also often copied  
into the document in a corresponding manner. The photographs  
and signatures can be inserted on the basic document in this  
way. This basic document may be produced especially for this  
30 purpose and is difficult to forge. Laser engraving is another  
way in which photographs and signatures can be inserted on  
such documents.

In the preparation of an identification document, or identification papers, in the aforescribed manner, the person wishing to obtain an identification document first has his/her photograph taken and then goes to a place where he/she can apply for an identification document, e.g. to a police station, post office or bank, where he/she presents proof of identity, passes over his/her photograph and signs his/her name at a specific position on an application form. The identity of the person making the application is also checked. The signed application form carrying the photograph is then sent to the company or to the authority that shall issue the document, and the document is produced. In the production of the document, the photograph and the signature are then scanned-in at their respective positions on the document, which is then usually sealed to prevent manipulation of the information/data included in the documents without destroying or harming the document as a whole. It may be necessary to make light adjustments and/or contrast adjustments in conjunction with scanning-in the photograph/signature.

One object of the present invention is to provide a method that enables the process of producing identification documents of the aforescribed kind to be simplified, and to omit at least the step of scanning-in the photographs.

This object of the invention is achieved with an inventive method in which a photograph is produced in at least digital form and, subsequent to verification, is transmitted whilst still in digital form for direct copying into the identification document.

According to a further development of the invention, there is also produced a signature in digital form for transmission to and direct copying on the identification document.

- 5 Another object of the invention is to provide a novel photo booth with which photographs can be produced for direct later use in the preparation of identification documents and similar papers.
- 10 This object of the invention is achieved with a photo booth which functions to produce a digital copy of a photograph and which stores this digital copy of the photograph for later transmission in digital form to an identification document.
- 15 The invention will now be described in more detail with reference to a non-limiting exemplifying embodiment illustrated with the aid of a schematic explanatory sketch showing how a process for the production of a document of identification can be produced in accordance with the invention, wherein
- 20 only those parts of the process essential to the invention have been shown.

Shown schematically in the drawing is a photo booth 1 which, in accordance with the invention, is equipped with a digital

25 camera with which digital pictures of the person desiring a photograph for the production of an identification document can be taken. The photo booth 1 may be provided conventionally with a pointer screen on which desired adjustments can be made. Instructions as to how the photograph shall be pre-

30 sented are shown on the screen, possibly supplemented with voice instructions and possibly also in various selective languages.

It is not essential that the photo booth is equipped with a digital camera, as other types of camera may also be used in the present respect, for instance a conventional video camera, wherewith pictures taken by the camera are converted to a photograph that is stored in digital form by means of equipment in the photo booth, such as a computer, for instance.

The person involved may first take a number of test pictures and then choose one that he or she finds suitable, or takes a new set of photographs when dissatisfied, and when finding a photograph that he/she likes indicates which photograph or photographs that he/she wishes to use.

The camera in the photo booth 1 is connected to a printer that can print-out the chosen photographs 2 and also to a network-connected computer in which the photographs are also stored in digital form. Storage of the photographs requires the photographs to be provided with some form of identification 3, suitably provided by the computer through the medium of a random selection program, a particular algorithm or through the medium of a serial number. Alternatively, the identification means may be a means of identification entered by the user himself, for instance his/her social security number. The means of identification under which the photographs are stored in the computer is also printed on the photograph or photographs 2 printed by the printer in the photo booth, preferably in a machine-readable form, such as a bar code 3, for instance.

A photo booth of the aforesaid kind may be erected in the vicinity of the authorities or companies that are authorised to issue the identification documents 9 concerned, although

this will not be necessary when the distance between photo booth and issuing authority is of no particular importance.

In the process of obtaining an identification document 9, the person whose photograph 2 has been taken in a photo booth as described above, goes to the authority or company that issues identification documents of the kind desired, and hands over his/her photograph 2 carrying the printed/written identification means 3 to the person, e.g. the administrator, responsible for handling the production of or processing applications for such identification documents. The administrator is able to establish that the person presenting the new photograph is the correct person, by checking earlier identification documents in the possession of the person concerned, and that this person is thus entitled to have the identification document 9 issued. The administrator also has access, via a computer 4, to the computer program or programs required for ordering the requested identification document. Information relating to the person concerned may have been stored in a database to which the administrator has access, and this personal data or information can be taken from the computer and used to fill in an application form 5 for the requested identification document 9. The administrator may also include the identification means 3 given to the photograph in said information. When the identification is in the form of a bar code 3, this information can be read in with the aid of a bar code reader 6, for instance.

Regardless of whether the identification document 9 shall be produced directly at the site 10 or separately, possibly at a different place 11, the photograph can be inputted digitally, as at 7, through the medium of said identification means, for

application to the identification document 9 with the aid of an appropriate technique.

If the identification document 9 shall also be provided with the owner's signature 12, the method may also include the use of a so-called signature pad 8 on which the signature 12 can be written and transferred digitally to the identification document 9 and copied thereon. The thus created digital signature can also be saved in the same database as that in which the digital photograph is saved, and then suitably after the identification obtained by the digital photograph. The digital signature may, of course, alternatively be saved in another database from which the signature 12 can be fetched in the production of the identification document 9.

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In many instances, there is a requirement that a basic application form is stored as proof that the identification document has been correctly prepared. This basic form may then include both an original photograph 2 and the original signature 12 of the owner. The basic form may suitably be the application form 5 prepared by the administrator with the aid of the data program to which he has access and to which the personal data relating to the person requesting the identification document can be fetched from relevant databases. This form 5 can then be filled-in and given to the person requesting the identification document, who places the form on the signature pad 8 so as to enable the person's signature 12 to be made in original on the form at the same time as said signature is sent in a digital form to the database in which the information/data for the production of the identification document is stored.

30

In the production of the document of identification 9, which can take place directly at the place 10 where the application is made, or at a central location 11 to which the basic application 5 is sent (as before mentioned), the requisite data/information is entered into or taken from a database and written into or copied into the document forming the basis for the identification document, together with the images of the photograph 2 and the signature 12 fetched from one or more databases. This identification document basis may consist of paper, plastic or similar material typical in respect of this type of document, and the requisite data may be fetched or copied in any suitable and appropriate manner with respect to the chosen document, e.g. by laser engraving or printing.

15

As will be understood, in respect of identification cards or documents that are produced in a central location, it is not necessary that all information, e.g. the digital copy of the photograph and/or the signature, can be fetched directly online by the document manufacturer, as this data may, of course, be stored on other data storage media, such as diskettes, CDs, or equivalent data carriers, which are sent from the place receiving the application to the manufacturer as a data file via a network. The digital photograph and the signature image are then conveniently sent as attached files. Information relating to the person concerned may, of course, be collected from other sources, for instance from a national registration office or from a driving license registry.

30 Transmission of the basic application to the company producing the identification document need not necessarily be a purely physical transmission, as it is sufficient to send solely the aforesaid data/information to the producer. How-



ever, it may be necessary to activate the physical application basis, although this can be done when the application is made, or at some other central location.

5 As will be understood, the identification document 9 may be provided during the production process with machine readable information, such as bar codes or magnetically or electronically stored information, in addition to the aforesaid information/data in a natural readable form. The identification  
10 document may, of course, also be provided with a microchip for the storage of information, for instance a smart card.

Identification documents that have been produced in the aforesaid manner may naturally include all other types of  
15 security or verification markings that may be required.

As before mentioned, a photo booth 1 constructed in accordance with the invention includes a digital camera which is suitably connected to a computer installed in the booth and  
20 including the software necessary for the production and management of the photographs produced in the photo booth 1. The digital photographs can be stored in the memory of the computer installed in the photo booth, at least temporarily, although the computer in the photo booth must be connected to  
25 a network so as to enable the photographs to be transferred 7 at least in respect of the production of the identity document, although preferably also for storage in a database located somewhere else than in the photo booth.

30 As before mentioned, the photo booth 1 also includes a printer connected to the computer in the photo booth and functioning to print-out the photographs taken in said booth, for producing the photograph 2 with identification means 3

that is handed over by the person whose photograph was taken to the administrator producing or ordering the identification document 9.

5 Thus, the invention provides a method which obviates the scanning requirement otherwise obligatory with respect to at least the photograph, although possibly also the signature, when producing identification documents of the aforesaid kind; this omission also eliminating the problem of lack of  
10 sharpness in the photograph that is always associated with this type of scanning.

Problems associated with varying qualities of respective photographs and subsequent scrapping of such photographs are  
15 also overcome in this respect, as are also problems with erroneous signatures on the basic application form. The official in charge of proceedings is able to see immediately if the signature is located outside the space intended for the signature and is able to ask the applicant to re-write  
20 his/her signature. This may also be detected automatically by the signature pad on which the signature is written.

It will be understood that the invention is not restricted solely to the production of direct identification documents  
25 and that it can also be applied for other purposes where the document is intended to include a photograph.

Bankcards, pay cards are examples of devices that can be readily provided with a photograph of the card owner by means  
30 of the inventive method.

Cards of a more temporary nature, such as visiting cards, pass cards, monthly cards and ski lift cards are further

examples of devices that can be readily provided with a photograph of the cardholder by means of the inventive method. In such cases, the requirement placed on the identity check of the card holder is not the same and hence the card can be  
5 produced directly by the photo booth which, in such cases, must be equipped with a printer that is able to print-out the desired card. The person being photographed is then able to control the procedure himself/herself, for instance by appropriate selection from a menu system.

## CLAIMS

1. A method of producing a photograph for an identification document (9) or a similar document that shall include a photograph (2), characterised by producing a photograph (2) in a digital form and transmitting (7) said photograph for direct copying into the identification document (9) while still in a digital form.
2. A method according to Claim 1, characterised by storing the digital photograph (2) in a database (4).
3. A method according to Claim 2, characterised by also producing a hard copy of the photograph (2) and providing said hard copy with an identification sign (3) which is stored in the database (4) together with the digital photograph.
4. A method according to Claim 3, characterised in that said identification sign (3) on the photograph (2) is a bar code (3).
5. A method according to any one of the preceding Claims, characterised by also producing a digital signature (12) by virtue of a signature written on a signature card (8) for direct transmission to and copying in the identification document (9).
6. A method according to any one of the preceding Claims, characterised by producing the photograph (2) in a photo booth (1) with the aid of a digital camera; and by sending (7), via a network, the photograph (2) to the place (10; 11) where the identification document (9) is produced.

7. A photo booth that includes a camera by means of which a digital photograph can be produced, characterised in that said camera is designed to produce a digital copy of a photograph (2) and is connected for transmission of the digital  
5 photograph directly to a database (4) or for storage of the digital photograph in the photo booth for later transmission.

8. A photo booth according to Claim 7, characterised in that the photo booth (1) is connected to a network.

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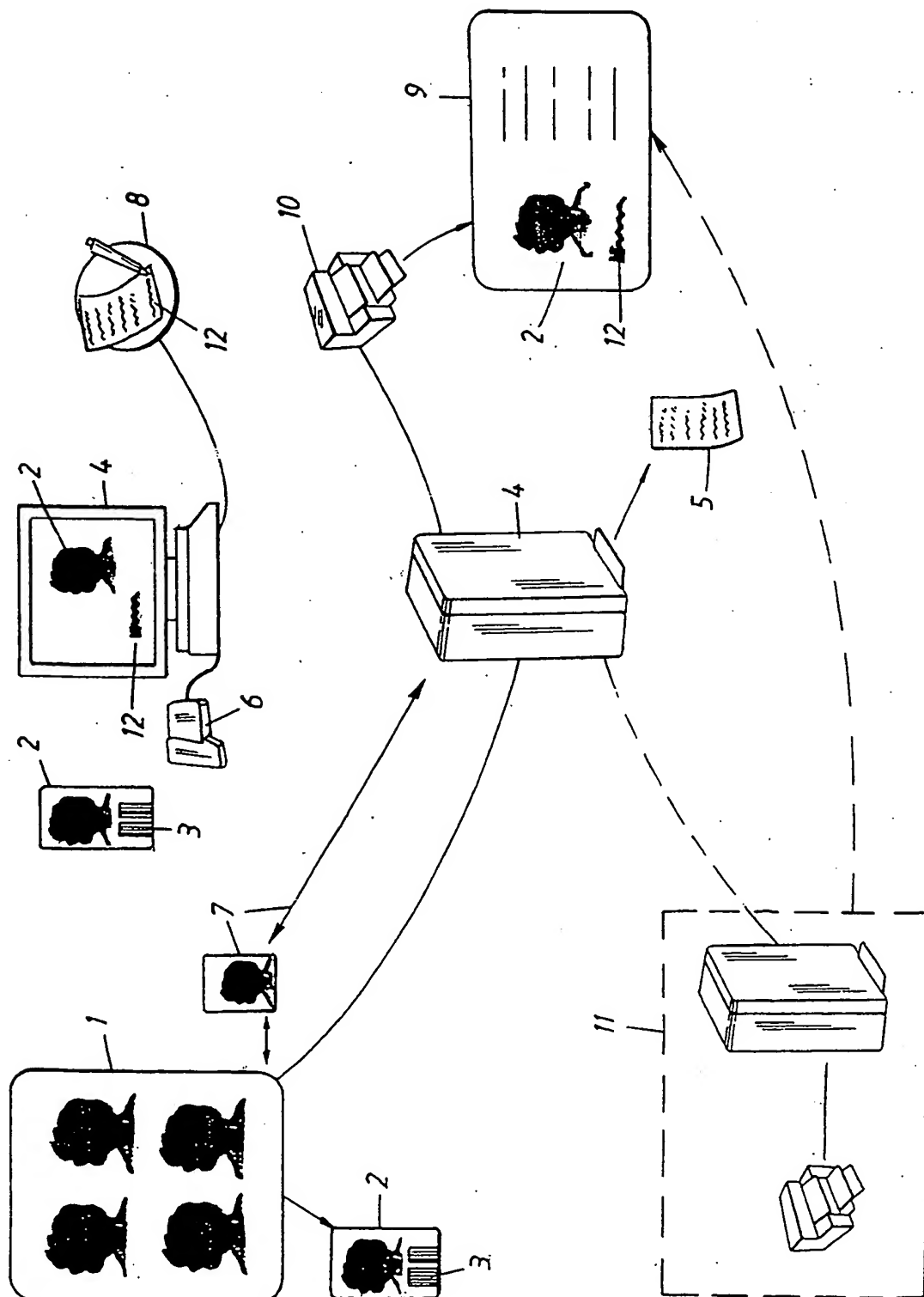
9. A photo booth according to Claim 7 or 8, characterised in that the photo booth (1) also includes a computer for storing and handling the digital photograph.

15 10. A photo booth according to Claim 9, characterised by means for creating an identification sign (3) or for inputting a digital photograph identifying sign.

11. A photo booth according to any one of Claims 7-10, characterised  
20 by a printer for printing the digital photograph.

12. A photo booth according to Claim 11, characterised in that the printer also functions to print-out a machine readable identification sign (3) associated with the digital  
25 photograph.

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 00/02412

## A. CLASSIFICATION OF SUBJECT MATTER

IPC7: G06K 5/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC7: H04N, G06K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

SE,DK,FI,NO classes as above

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5886334 A (W.D'ENTREMONT ET AL), 23 March 1999 (23.03.99), column 3, line 31 - line 39; column 5, line 42 - line 58; column 6, line 13 - line 19, column 7, line 65 - column 8, line 24 --	1-12
A	US 5913542 A (B.BELUCCI ET AL), 22 June 1999 (22.06.99) -- -----	1-12



Further documents are listed in the continuation of Box C.



See patent family annex.

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"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&amp;" document member of the same patent family

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## INTERNATIONAL SEARCH REPORT

Information on patent family members

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